We claim:

1. A composition for the translocation of at least one effector across a biological barrier comprising a therapeutically effective amount of said at least one effector, and a counter ion to the at least one effector.
2. The composition of claim 1, wherein said counter ion is an ionic liquid forming cation.
3. The composition of claim 1 comprising a pharmaceutically acceptable excipient, pharmaceutically acceptable carrier, or a combination thereof.
4. The composition of claim 1, wherein said composition is contained within a capsule.
5. The composition of claim 1, wherein said composition is in the form of a tablet.
6. The composition of claim 1, wherein said composition is enteric-coated.
7. The composition of claim 1, wherein said composition is in the form of an aqueous dispersion.
8. The composition of claim 1, wherein said composition is in the form of a cream.
9. The composition of claim 1, wherein said composition is in the form of an ointment.
10. The composition of claim 1, wherein said composition is in the form of a suppository.
11. The composition of claim 1, wherein said at least one effector is an anionic impermeable molecule.
12. The composition of claim 11, wherein said anionic impermeable molecule is a polysaccharide.
13. The composition of claim 12, wherein said polysaccharide is a glycosaminoglycan.
14. The composition of claim 13, wherein said glycosaminoglycan is selected from the group consisting of: heparin; heparan sulfate; chondroitin sulfate;

dermatan sulfate; hyaluronic acid; and pharmaceutically acceptable salts thereof.

15. The composition of claim 11, wherein said anionic impermeable molecule is a bioactive molecule.
16. The composition of claim 15, wherein said bioactive molecule is selected from the group consisting of: insulin; erythropoietin (EPO); glucagon-like peptide 1 (GLP-1); αMSH; parathyroid hormone (PTH); growth hormone; calcitonin; interleukin-2 (IL-2); α1-antitrypsin; granulocyte/monocyte colony stimulating factor (GM-CSF); granulocyte colony stimulating factor (G-CSF); T20; anti-TNF antibodies; interferon α; interferon β; interferon γ; lutenizing hormone (LH); follicle-stimulating hormone (FSH); enkephalin; dalargin; kyotorphin; basic fibroblast growth factor (bFGF); hirudin; hirulog; lutenizing hormone releasing hormone (LHRH) analog; brain-derived natriuretic peptide (BNP); and neurotrophic factors.
17. The composition of claim 1, wherein said at least one effector is a pharmaceutically active agent.
18. The composition of claim 17, wherein said pharmaceutically active agent is selected from the group consisting of: a hormone; a growth factor; a neurotrophic factor; an anticoagulant; a bioactive molecule; a toxin; an antibiotic; an anti-fungal agent; an antipathogenic agent; an antigen; an antibody; an antibody fragment; an immunomodulator; a vitamin; an antineoplastic agent; an enzyme; and a therapeutic agent.
19. The composition of claim 1, wherein said at least one effector is a nucleic acid or a nucleic acid mimetic.
20. The composition of claim 19, wherein the nucleic acid is a DNA or DNA-mimetic.
21. The composition of claim 19, wherein the nucleic acid is a RNA or RNA-mimetic.

22. The composition of claim 2, wherein said ionic liquid forming cation is selected from the group consisting of imidazolium derivatives, pyridinium derivatives, phosphonium compounds and tetralkylammonium compounds.
23. The composition of claim 22, wherein said imidazolium derivative has the general structure of 1-R1-3-R2-imidazolium, and wherein R1 and R2 are linear or branched alkyls with 1 to 12 carbons.
24. The composition of claim 23, wherein said imidazolium derivative further comprises a halogen or an alkyl group substitution.
25. The composition of claim 22, wherein said imidazolium derivative is selected from the group consisting of: 1-ethyl-3-methylimidazolium; 1-butyl-3-methylimidazolium; 1-hexyl-3-methylimidazolium; 1-methyl-3-octylimidazolium; 1-methyl-3-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoroctyl)-imidazolium; 1,3-dimethylimidazolium; and 1,2-dimethyl-3-propylimidazolium.
26. The composition of claim 22, wherein said pyridinium derivative has the general structure of 1-R1-3-R2-pyridinium, where R1 is a linear or branched alkyl with 1 to 12 carbons, and R2 is H or a linear or branched alkyl with 1 to 12 carbons.
27. The composition of claim 26, wherein said pyridinium derivative further comprises a halogen or an alkyl group substitution.
28. The composition of claim 22, wherein said pyridinium derivative is selected from the group consisting of 3-methyl-1-propylpyridinium, 1-butyl-3-methylpyridinium, and 1-butyl-4-methylpyridinium.
29. The composition of claim 1, wherein the composition further comprises a hydrophobic carrier.
30. The composition of claim 29, wherein the hydrophobic carrier is selected from the group consisting of: free fatty acids; mono-glycerides; di-glycerides; tri-glycerides; ethers; and cholesterol esters of fatty acids.
31. The composition of claim 30, wherein said tri-glyceride is tricaprin.

32. The composition of claim 29, wherein the hydrophobic carrier is benzyl benzoate.
33. The composition of claim 1, wherein said composition further contains a polyanionic molecule.
34. The composition of claim 33, wherein said polyanionic molecule is phytic acid.
35. The composition of claim 1, wherein said composition further comprises a surface active agent.
36. The composition of claim 35, wherein said surface active agent is selected from the group consisting of: a poloxamer; Solutol HS15; Cremophore; phospholipids; and bile acids.
37. The composition of claim 1, wherein said composition is dissolved in an at least partially water soluble solvent.
38. The composition of claim 37, wherein said at least partially water soluble solvent is selected from the group consisting of: n-butanol; isoamyl (=isopentyl) alchohol; iso-butanol; iso-propanol; propanol; ethanol; ter-butanol alcohols; polyols; DMF; DMSO; ethers; amides; esters; and mixtures thereof.
39. The composition of claim 1, wherein any one or more of the components of the composition is lyophilized.
40. The composition of claim 1, further comprising at least one protective agent.
41. The composition of claim 40, wherein said protective agent is a protease inhibitor selected from the group consisting of: aprotinin; Bowman-Birk inhibitor; soybean trypsin inhibitor; chicken ovomucoid; chicken ovoinhibitor; human pancreatic trypsin inhibitor; camostate mesilate; flavonoid inhibitors; antipain; leupeptin; *p*-aminobenzamidine; AEBSF; TLCK; APMSF; DFP; PMSF; poly(acrylate) derivatives; chymostatin; benzyloxycarbonyl-Pro-Phe-CHO; FK-448; sugar biphenylboronic acids complexes; β-phenylpropionate; elastatinal; methoxysuccinyl-Ala-Ala-Pro-

Val-chloromethylketone (MPCMK); EDTA; chitosan-EDTA conjugates; amino acids; di-peptides; tripeptides; amastatin; bestatin; puromycin; bacitracin; phosphinic acid dipeptide analogues; α-aminoboronic acid derivatives; Na-glycocholate; 1,10-phenantroline; acivicin; L-serine-borate; thiorphan; and phosphoramidon.

42. A method of translocating at least one effector across a biological barrier comprising introducing the composition of claim 1 to a biological barrier and allowing the composition to translocate across said biological barrier, thereby translocating the at least one effector across the biological barrier.
43. The method of claim 42, wherein the translocation across a biological barrier occurs within a tissue selected from the group consisting of: epithelial cells and endothelial cells.
44. The method of claim 42, wherein said biological barrier is selected from the group consisting of: tight junctions and plasma membranes.
45. The method of claim 42, wherein said biological barrier comprises gastro-intestinal mucosa.
46. The method of claim 42, wherein said biological barrier comprises the blood brain barrier.
47. The composition of claim 1, wherein the composition further comprises a mixture of at least two substances selected from the group consisting of a non-ionic detergent, an ionic detergent, a protease inhibitor, and a reducing agent.
48. The composition of claim 47, wherein the non-ionic detergent is a poloxamer or Solutol HS 15.
49. The composition of claim 48, wherein the poloxamer is pluronic F-68.
50. The composition of claim 47, wherein the ionic detergent is a bile salt.
51. The composition of claim 50, wherein the bile salt is Taurodeoxycholate.
52. The composition of claim 47, wherein the protease inhibitor is selected from the group consisting of aprotonin and soy bean trypsin inhibitor.
53. The composition of claim 47, wherein the reducing agent is NAC.

54. A method of mucosal vaccination, the method comprising administering to a subject in need of vaccination the composition of claim 1, wherein the at least one effector comprises an antigen to which vaccination is desirable.
55. The method of claim 54, wherein the antigen to which vaccination is desired is selected from the group consisting of PA for use in a vaccine against Anthrax and HBs for use in a vaccine against Hepatitis B.
56. A kit comprising, in one or more containers, a therapeutically or prophylactically effective amount of the composition of claim 1.
57. A method of treating or preventing a disease or pathological condition, said method comprising administering to a subject in which such treatment or prevention is desired, the composition of claim 1, in an amount sufficient to treat or prevent said disease or said pathological condition in said subject.
58. The method of claim 57, wherein said disease or said pathological condition is selected from the group consisting of: endocrine disorders; diabetes; infertility; hormone deficiencies; osteoporosis; ophthalmological disorders; neurodegenerative disorders; Alzheimer's disease; dementia; Parkinson's disease; multiple sclerosis; Huntington's disease; cardiovascular disorders; atherosclerosis; hyper-coagulable states; hypo-coagulable states; coronary disease; cerebrovascular events; metabolic disorders; obesity; vitamin deficiencies; renal disorders; renal failure; haematological disorders; anemia of different entities; immunologic and rheumatologic disorders; autoimmune diseases; immune deficiencies; infectious diseases; viral infections; bacterial infections; fungal infections; parasitic infections; neoplastic diseases; multi- factorial disorders; impotence; chronic pain; depression; different fibrosis states; and short stature.
59. The method of claim 57, wherein the composition is administered via a route of administration selected from the group consisting of: orally; nasally; transdermally; bucally; sublingually; anally; bronchially; parenterally; and topically.

60. The method of claim 59, wherein the composition is administered to treat an ophthalmological disorder parenterally.
61. The method of claim 60, wherein said parenteral route is intraorbit.
62. A method for producing the composition of claim 1, the method comprising lyophilizing the effector and the counter ion by any suitable means, and reconstituting the lyophilized materials in an aqueous, partially aqueous, or organic solvent, thereby producing the composition.
63. The method of claim 62, wherein the lyophilizing step alternatively comprises lyophilizing the effector and the counter ion with phytic acid or any other constituent of a pharmaceutical excipient or carrier.
64. The method of claim 62, wherein the reconstituting step alternatively comprises reconstituting the lyophilized materials and at least one other constituent of the composition in an aqueous, partially aqueous, or organic solvent.
65. The method of claim 64, wherein said at least one other constituent is a member selected from the group consisting of: pluronic F-68, Aprotinin, Solutol HS-15, N-Acetyl Cysteine, and Tricaprin.
66. The composition of claim 1, wherein said effector further comprises a chemical modification.
67. The composition of claim 66, wherein said at least one effector is selected from the group consisting of: insulin; erythropoietin (EPO); glucagon-like peptide 1 (GLP-1); αMSH; parathyroid hormone (PTH); growth hormone; calcitonin; interleukin-2 (IL-2); α1- antitrypsin; granulocyte/monocyte colony stimulating factor (GM-CSF); granulocyte colony stimulating factor (G-CSF); T20; anti- TNF antibodies; interferon α; interferon β; interferon γ; lutenizing hormone (LH); follicle- stimulating hormone (FSH); enkephalin; dalargin; kyotorphin; basic fibroblast growth factor (bFGF); hirudin; hirulog; lutenizing hormone releasing hormone (LHRH) analog; brain-derived natriuretic peptide (BNP); and neurotrophic factors.

68. The composition of claim 66, wherein the chemical modification comprises the attachment of one or more polyethylene glycol residues to the effector.
69. The composition of claim 2, wherein said ionic liquid forming cation is a constituent of a water soluble salt.